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ABSTRACT

The present invention relates to a method of multiplexing in a multiplexer a plurality of data streams to a single channel each of said data streams containing a plurality of fixed lengh data packets being serially transmitted from a source to a destination by way of the data stream and the channel, the method comprising:

for each data stream, receiving a data packet at an input of a data stream; segmenting the data packet into segments; assigning a time label to the data packet, the time label containing data indicating an estimated arrival time for the packet at the multiplexer; transmitting the time label to the multiplexer at a first signal from the multiplexer; transmitting the segments comprising the data packet to the channel at a second signal from the multiplexer; and storing the time label as a previously transmitted stream time label; and for the multiplexer, signalling a data stream to transmit a time label by sending the first signal; receiving a received time label from a data stream, the received time label being associated with the data stream transmitting the received time label; storing the received time label in a group of received time labels the group of time labels containing received time labels from other data streams; sorting the group of received time labels to determine a transmitting time label with an earliest estimated arrival time of the group; sending a second signal to the data stream associated with the transmitting time label to transmit the segments comprising a transmitting data packet to the channel, said transmitting data packet being a data packet assigned with the transmitting time label; storing the transmitting time label as a previously transmitted channel time label; and removing the transmitting time label from the group after the segments comprising the transmitting data packet have been transmitted.